

## ABSTRACT

A non-aqueous electrolyte secondary battery with a high capacity in which irreversible capacity is decreased, and formation of a coating caused by irreversible reaction, and a method of preparing a preferable carbon-based material for the negative electrode. A negative electrode of the secondary battery is produced using; graphite in which  $G_s$  ( $G_s = H_{sg}/H_{sd}$ ) is 10 and below in the surface enhanced Raman spectrum, graphite having at least two peaks on a differential thermogravimetric curve, graphite with the saturated tapping density of  $1.0 \text{ g/cm}^3$  and more, graphite with the packing characteristic index of 0.42 and more, or graphite with the ratio of a specific surface area after pressing being 2.5 times and below of that before pressing. The graphite material can be obtained by mixing a carbon-based material with a coating material such as pitch or by applying a heat treatment to a carbon-based material in an oxidizing atmosphere and then performing graphitization.